AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A power supply apparatus, comprising:

a plurality of power source circuits with a common direct current power source;

an oscillator circuit which generates a common oscillator signal; and

a controller ~~which~~ comprising a plurality of control circuits respectively coupled to control said plurality of power source circuits, said plurality of control circuits commonly receiving said common oscillator signal and performing ~~performs~~ a time sharing control based on the oscillator signal to enable the plurality of power source circuits to receive power from the common direct current power source in different timings and to output respective voltages,

wherein said plurality of power source circuits comprises at least two different types of converter circuits.

2. (Original) The power supply apparatus according to claim 1,

wherein the respective voltages are different from each other.

3. (Previously Presented) The power supply apparatus according to claim 2, further comprising:

a selection circuit, selecting at least two power source circuits out of the plurality of power source circuits,

wherein the controller performs the time sharing control to enable the selected at least two power source circuits to receive power from the common direct current power source based on the oscillator signal.

4. (Previously Presented) The power supply apparatus according to claim 3,

wherein the plurality of power source circuits include a voltage-step-up circuit, a voltage-step-down circuit, and a multiplicative voltage-step-up circuit, wherein

the selection circuit selects one of a combination of the voltage-step-up and voltage-step-down circuits and the voltage-step-down and multiplicative voltage-step-up circuits, and wherein

the controller performs the time sharing control based on the oscillator signal to enable one of the combination of the voltage-step-up and voltage-step-down circuits and the voltage-step-down and multiplicative voltage-step-up circuits selected by the selection circuit to receive power from the common direct current power source, and

wherein the voltage step-down circuit receives power from the common direct current power source with a substantially identical timing when either one of the combinations is selected.

5. (Currently Amended) A power supply apparatus, comprising:

a plurality of power generating means for generating a plurality of different output powers based on a common direct current power source;

oscillating means for generating a common oscillator signal; and

controlling means [[for]] comprising a plurality of control circuits respectively coupled to control said plurality of power generating means, said plurality of control circuits commonly receiving said common oscillator signal and performing a time sharing control based on the oscillator signal to enable the plurality of power generating means to receive power from the common direct current power source in different timings and to output respective voltages,

wherein said plurality of power generating means comprises at least two different types of converting means.

6. (Original) The power supply apparatus according to claim 5,

wherein the respective voltages are different from each other.

7. (Previously Presented) The power supply apparatus according to claim 6, further comprising:

selecting means for selecting at least two power generating means out of the plurality of power generating means,

wherein the controlling means performs the time sharing control to enable the selected at least two power generating means to receive power from the common direct current power source based on the oscillator signal.

8. (Previously Presented) The power supply apparatus according to claim 7,

wherein the plurality of power generating means include voltage-step-up means for generating a step-up voltage, voltage-step-down means for generating a step-down voltage, and multiplicative voltage-step-up means for generating a multiplicative step-up voltage, wherein

the selecting means selects one of a combination of the voltage-step-up and voltage-step-down means, and the voltage-step-down and multiplicative voltage-step-up means, and wherein

the controlling means performs the time sharing control based on the oscillator signal to enable one of the combination of the voltage-step-up and voltage-step-down means and the voltage-step-down and multiplicative voltage-step-up means selected by the selecting means to receive power from the common direct current power source in different timings and to output respective voltages, and

wherein the voltage step-down means receives power from the common direct current power source with a substantially identical timing when either one of the combinations is selected.

9. (Currently Amended) A power supply method, comprising the steps of:

providing a plurality of power source circuits with a common direct current power source;

generating a common oscillator signal, and

performing a time sharing control based on the common oscillator signal to enable the plurality of power source circuits to receive power from the common direct current power source under different timings and to output respective voltages,

wherein said step of performing a time sharing control is performed by a controller comprising a plurality of control circuits respectively coupled to control said plurality of power source circuits, said plurality of control circuits commonly receiving said common oscillator signal, and

wherein said plurality of power source circuits comprises at least two different types of converter circuits.

10. (Original) The power supply method according to claim 9,

wherein the respective voltages are different from each other.

11. (Previously Presented) The power supply method according to claim 10, further comprising the steps of:

selecting at least two power source circuits out of the plurality of power source circuits,

wherein a controlling step performs the time sharing control based on the oscillator signal to enable the selected at least two power source circuits to receive power from the common direct current power source in different timings.

12. (Previously Presented) The power supply method according to claim 11,

wherein the plurality of power source circuits include a voltage-step-up circuit, a voltage-step-down circuit, and a multiplicative voltage-step-up circuit, and wherein

the selecting step selects one of a combination of the voltage-step-up and voltage-step-down circuits, and the voltage-step-down and multiplicative voltage-step-up circuits, and wherein

the performing step performs the time sharing control based on the oscillator signal to enable one of the combination of the voltage-step-up and voltage-step-down circuits, and the voltage-step-down and multiplicative voltage-step-up circuits, selected by the selecting step. to receive power from the common direct current power source in different timings and to output respective voltages, and

wherein the voltage step-down circuit receives power from the common direct current power source with a substantially identical timing when either one of the combinations is selected.

13. (Currently Amended) A power supply apparatus, comprising:

a plurality of power source circuits with a common direct current power source;

an oscillator circuit which generates a common oscillator signal; and

a controller ~~which~~ comprising a plurality of control circuits respectively coupled to control said plurality of power source circuits, said plurality of control circuits commonly receiving said common oscillator signal and performing ~~performs~~ a time sharing control based on an edge of the oscillator signal to enable the plurality of power source circuits to receive power from the common direct current power source in different timings and to output respective voltages,

wherein said plurality of power source circuits comprises at least two different types of converter circuits.

14. (Previously Presented) The power supply apparatus according to claim 13,

wherein the respective voltages are different from each other.

15. (Previously Presented) The power supply apparatus according to claim 14, further comprising:

a selection circuit, selecting at least two power source circuits out of the plurality of power source circuits,

wherein the controller performs the time sharing control to enable the selected at least two power source circuits to receive power from the common direct current power source based on the oscillator signal.

16. (Previously Presented) The power supply apparatus according to claim 15,

wherein three of the plurality of power source circuits respectively comprise a voltage-step-up circuit, a voltage-step-down circuit, and a multiplicative voltage-step-up circuit, wherein

the selection circuit selects one of a combination of the voltage-step-up and voltage-step-down circuits and the voltage-step-down and multiplicative voltage-step-up circuits, and wherein

the controller performs the time sharing control based on the oscillator signal to enable one of the combination of the voltage-step-up and voltage-step-down circuits and the voltage-step-down and multiplicative voltage-step-up circuits selected by the selection circuit to receive power from the common direct current power source, and

wherein the voltage step-down circuit receives power from the common direct current power source with a substantially identical timing when either one of the combinations is selected.

17. (Previously Presented) The power supply apparatus according to claim 16, wherein the combination of the voltage-step-up and voltage-step-down circuits is triggered on an edge of the oscillator signal when the voltage level of the edge is at a first reference value.

18. (Previously Presented) The power supply apparatus according to claim 17, wherein the combination of the voltage-step-down and multiplicative voltage-step-up circuits is triggered on an edge of the oscillator signal when the voltage level of the edge is at a second reference value.

19. (Currently Amended) A power supply control apparatus, comprising:

an oscillator circuit which generates a common oscillator signal;

a plurality of <u>independently controllable</u> power source circuits with a common direct current power source, at least one of the plurality of power source circuits comprising:

an electric storage circuit;

a semiconductor switch for controlling a storage of an electric power supplied by the common direct current power source into the electric storage circuit;

an error amplifier for comparing a divided voltage obtained by dividing an output voltage and a reference voltage to output a control signal such that the divided voltage is equalized to the reference voltage; and

a controlling circuit for determining a time to start the storage of the electric power supplied by the common direct current power source into the electric storage circuit based on the control signal output by the error amplifier and the common oscillator signal generated by the ~~common~~ oscillator circuit,

wherein the controlling circuit determines the time to start the storage of the electric power differently from times that remaining power source circuits of the plurality of power source circuits start the storage of the electric power.